

1. A method of extruding structural members comprising:
 - (a) providing an alloy comprising:

about 3.6 to about 4.2 wt.% copper,
about 1.0 to about 1.6 wt.% magnesium,
about 0.3 to about 0.8 wt.% manganese,
about 0.05 to about 0.25% zirconium,
the balance substantially aluminum, incidental elements and impurities;
 - (b) extruding said alloy within about 500° to about 750°F to form an extrusion;
 - (c) solution heat treating said extrusion; and
 - (d) quenching said extrusion before making a structural member therefrom.
2. The method of claim 1 wherein (b) is about 550° to about 650°F.
3. The method of claim 1 wherein (b) is about 600° to about 650°F.
4. The method of claim 1 which further includes:
 - (e) stretching said extrusion by at least about 1%.

5. The method of claim 1 which further includes:

(e) stretching said extrusion between about 1 to about 10%.

6. The method of claim 1 which further includes:

(e) stretching said extrusion between about 1 to about 8%.

7. The method of claim 1 which further includes:

(e) stretching said extrusion between about 1 to about 3%.

8. The method of claim 1 which further includes:

(e) stretching said extrusion by at least about 1%, said extrusion having less than about 50% by volume recrystallized after stretching.

9. The method of claim 1 which further includes:

(e) stretching said extrusion by at least about 1%, said extrusion being substantially unrecrystallized.

10. The method of claim 1 which further includes:

(e) stretching said extrusion by at least about 1%; said extrusion having a longitudinal yield strength of at least about 50 ksi and a longitudinal tensile ultimate strength of at least about 70 ksi.

11. A substantially unrecrystallized extrusion comprising:

about 3.6 to about 4.2 wt.% copper,

about 1.0 to about 1.6 wt.% magnesium,

about 0.3 to about 0.8 wt.% manganese,

about 0.05 to about 0.25% zirconium,

the balance substantially aluminum, incidental elements and impurities.

12. The substantially unrecrystallized extrusion of claim 11 wherein the alloy further includes not more than about 0.06% silicon and not more than about 0.08% iron.

13. The substantially unrecrystallized extrusion of claim 11 wherein the alloy includes about 3.7 to about 4.1 wt.% copper.

14. The substantially unrecrystallized extrusion of claim 11 wherein the alloy includes about 1.15 to about 1.5 wt.% magnesium.

15. The substantially unrecrystallized extrusion of claim 11 wherein the alloy includes about 0.5 to about 0.6 wt.% manganese.

16. The substantially unrecrystallized extrusion of claim 11 wherein the alloy includes about 0.09 to about 0.13% zirconium.

17. A substantially unrecrystallized extrusion comprising:

about 3.6 to about 4.2 wt.% copper,

about 1.0 to about 1.6 wt.% magnesium,

about 0.3 to about 0.8 wt.% manganese,

about 0.05 to about 0.25% zirconium,

the balance substantially aluminum, incidental elements and impurities,

said substantially unrecrystallized extrusion having a longitudinal yield strength of at least about 50 ksi and a longitudinal tensile ultimate strength of at least about 70 ksi.

18. The substantially unrecrystallized extrusion of claim 17 wherein the alloy further includes not more than about 0.06% silicon and not more than about 0.08% iron.

19. The substantially unrecrystallized extrusion of claim 17 wherein the alloy includes about 3.7 to about 4.1 wt.% copper.

20. The substantially unrecrystallized extrusion of claim 17 wherein the alloy includes about 1.15 to about 1.5 wt.% magnesium.

21. The substantially unrecrystallized extrusion of claim 17 wherein the alloy includes about 0.5 to about 0.6 wt.% manganese.

22. The substantially unrecrystallized extrusion of claim 17 wherein the alloy further includes about 0.09 to about 0.13% zirconium.

23. The substantially unrecrystallized extrusion of claim 17 wherein the alloy further includes less than about 1.5 vol.% of Fe, Si, Mg, Mn and Cu bearing intermetallic particles.

24. A substantially unrecrystallized aircraft component comprising:
about 3.6 to about 4.2 wt.% copper,
about 1.0 to about 1.6 wt.% magnesium,
about 0.3 to about 0.8 wt.% manganese,
about 0.05 to about 0.25% zirconium,
the balance substantially aluminum, incidental elements and
impurities.

25. The substantially unrecrystallized aircraft component of claim
24 wherein the component is an aircraft fuselage component.

26. The substantially unrecrystallized aircraft component of claim
24 wherein the component is an aircraft wing stringer component.